Opportunity Title: Master's level Biomechanical Engineering Research Fellowship
Opportunity Reference Code: MRDC-AARL-2024-0003

Organization U.S. Department of Defense (DOD)

Reference Code MRDC-AARL-2024-0003

How to Apply Click on *Apply* at the bottom of the opportunity to start your application.

Description The Department of Defense (DoD) is offering a postgraduate internship at the U.S. Army Medical Research and Development Command - Aeromedical Research Laboratory (USAMRDC AARL) located at Fort Novosel, AL. This project falls under the Injury Biomechanics and Protection Group (IBPG) at USAARL. The IBPG Mission is to enhance Warfighter lethality, protection, and survivability for the battlefields of the future through next-generation biomechanical research.

What will I be doing?

As an ORISE participant, you will join a community of scientists and researchers in an effort to gain experience conducting research on the Vertical Acceleration Tower (VAT) and other research tools available in the USAARL Injury Biomechanics and Protection Group.

Why should I apply?

Under the guidance of a mentor, you will gain hands-on experience to complement your education and support your academic and professional goals. Along the way, you will engage in activities and research in several areas. These include, but are not limited to,

- Collecting data with two of our research tools, the FARO 6-DOF coordinate measuring device and the Mass Properties Machine (MPI).
- Reviewing and updating of Standard Operation Procedures (SOPs) for the research being performed on the VAT and other tools.
- Mechanical design and fabrication of test fixtures for both, ongoing and future research activities.
- Advancing skills involving the operation and support of other IBPG research tools.
- Study data collection and analysis of research data (e.g., motion, force, pressure, acceleration, kinematics, mass, distance, displacement).
- Study design and design of experimental fixtures that will be used during study execution.
- Development of data presentations and reports.

Where will I be located?

On-site at Fort Novosel, AL.

What is the anticipated start date?

The USAARL is ready to make appointments immediately. Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and internships or fellowships will be filled as qualified candidates are identified.

What is the appointment length?

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This appointment is a twelve-month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

What are the benefits?

You will receive a stipend to be determined by USAARL. Stipends are typically based on a participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Relocation Allowance
- Training and Travel Allowance

Security Clearance

While participants will not enter into an employment relationship with DoD or any other agency, this opportunity will require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation. An interim clearance is required prior to the candidate starting his/her appointment.

About USAARL

The U.S. Army Aeromedical Research Laboratory (USAARL) located at Fort Novosel, Alabama, is a nationally recognized laboratory for research into safety, survival, impact tolerance, sustainability and performance effectiveness of aviators and Soldiers. The USAARL's research focuses on blunt, blast and accelerative injury and protection; crew survival in military helicopters and combat vehicles; the en route care environment; human operator health and performance in complex systems and sensory performance, injury and protection. Current USAARL work for the Army's modernization priorities includes research in the areas of future vertical lift, the next generation combat vehicle and directed-energy weapons. The Laboratory's highly skilled workforce consists of rated aviators, medical professionals, doctoral- and masters-level researchers, and research technicians. Visit https://usaarl.health.mil/ to learn more about USAARL.

About ORISE

This program, administered by Oak Ridge Associated Universities (ORAU) through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and DoD. Participants do not enter into an employee/employer relationship with ORISE, ORAU, DoD or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the ORISE Research Participation Program at the U.S. Department of Defense.

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Qualifications

The qualified candidate will have a master's degree in mechanical or aerospace engineering or related field. Degree must have been received within five years of the appointment start date.

Highly qualified candidates will have:

- Experience with Matlab and other software products to store, manage, and analyze data.
- Knowledge of basic principles of dynamics, kinematics, and engineering disciplines.

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click here for detailed information about acceptable transcripts.
- Two Recommendations. Your application will be considered incomplete and will not be reviewed until two recommendations are submitted. We encourage you to contact your recommenders as soon as you start your application to ensure they are able to complete the recommendation form and to let them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

If you have questions, send an email to army-mrmc@orise.orau.gov. Please list the reference code of this opportunity [MRDC-AARL-2024-0003] in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the “Apply” button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

Connect with ORISE...on the GO! Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree received within the last 60 month(s).
- **Overall GPA:** 3.00
- **Discipline(s):**
  - **Engineering** (3 👁)

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- **Age:** Must be 18 years of age